

IN THE SPECIFICATION:

Paragraph beginning at line 3 of page 1 has been amended as follows:

The present invention relates to a step motor control device that rotationally drives a step motor and detects the presence/absence of the rotation of the step motor, and to an electronic timepiece that uses utilizing the step motor control device.

Paragraph beginning at line 8 of page 1 has been amended as follows:

~~Up to now, in the~~ In an electronic timepiece, a step motor is used as a motor that rotationally drives time hands such as an hour hand or a minute hand.

Paragraph beginning at line 11 of page 1 has been amended as follows:

Fig. 5 is a front view showing a step motor used in ~~the~~ such electronic timepiece, such as an electronic wristwatch, and described in JP57-18440 B (pgs. 1-2, Fig. 1) (hereinafter "Patent Document 1") ~~up to now (for example, refer to patent Document 1).~~

Paragraph beginning at line 9 of page 2 has been amended as follows:

Fig. 6 is a circuit diagram showing a conventional step motor control device for conducting the rotation control of the step motor, ~~which has been used in the electronic timepiece up to now.~~ The circuit is structured such that a rotation drive circuit and a rotation detecting circuit are integrated together (for example, refer to Patent Document 1).

Heading at line 1 of page 6 has been deleted as follows:

~~{Patent Document 1}~~

Heading at line 2 of page 6 has been deleted as follows:

~~JP 57-18440 B (pages 1 to 2, Fig. 1)~~

Paragraph beginning at line 19 of page 6 has been amended as follows:

Accordingly, even ~~through~~ though the step motor does not rotate, because the counterclockwise vibration of the rotor 502 is large within a given period immediately after the supply of the drive pulse P1 is finished, the detection voltage V7 that exceeds the threshold voltage Vss may be obtained as shown in Fig. 7. That is, in the detection signal V7 that is obtained in a given period T7 immediately after the

supply of the drive pulse P1 is finished, a detection voltage having a large peak value is generated in the detection resistor 209 due to the large free vibration of the rotor 502 and misdetection is caused that the step motor is rotating.

Paragraph beginning at line 6 of page 7 has been amended as follows:

Up to now, in order to prevent such misdetection, the control circuit ~~is~~ has been structured such that a non-detection period IT having a given time width T7 is set which starts at a time point immediately after the stoppage of the supply of the drive pulse P1, thereby preventing detection of the rotation of the step motor in the non-detection period IT.

Paragraph beginning at line 15 of page 8 has been amended as follows:

According to the present invention, there is provided a step motor control device including first and second switch elements that are connected to each other in series; third and fourth switch elements that are connected to each other in series; a coil of a step motor which is connected between a connection point of the first and second switch elements and a connection point of the third and fourth switch elements; a first series circuit including a fifth

switch element connected in parallel with the first switch element and a first detection element; a second series circuit including a sixth switch element connected in parallel with the third switch element and a second detection element; a control means ~~that controls~~ for controlling the on/off operation of the first to fourth switch elements in response to a drive pulse to allow a current to flow in the coil to rotationally drive the step motor, and ~~controls~~ controlling the on/off operation of the first, third, fifth and sixth switch elements in response to a rotation detection control pulse that is supplied immediately after the supply of the drive pulse is finished in a rotation detection period immediately after the rotation drive in accordance with the drive pulse; and a detecting means ~~that detects~~ for detecting the presence/absence of the rotation of the step motor on the basis of a comparison result of a voltage generated between the first and second detection elements and the coil with a given threshold voltage, ~~the step motor control device being characterized in that: the.~~ The control means controls the on/off operation of the third switch element at a given frequency after a given period has elapsed in a state where the fourth and fifth switch elements are turned on, or controls the on/off operation of the first switch element at a given frequency after a given period has elapsed in a state

where the third and sixth switch elements are turned on, and the detecting means detects the presence/absence of the rotation of the step motor when the control means controls the on/off operation of the third switch element or the fourth switch element at a given frequency.

Paragraph beginning at line 15 of page 10 has been amended as follows:

Further, according to the present invention, there is provided an electronic timepiece including a step motor that rotates time hands and a step motor control device that rotationally controls the step motor, the clock being characterized in that any of the step motor control ~~device~~ devices described above is used as the step motor control device.

Heading at line 21 of page 10 has been amended as follows:

BRIEF DESCRIPTION OF ~~THE SEVERAL VIEWS~~ OF THE
DRAWINGS

Paragraph beginning at line 7 of page 13 has been amended as follows:

~~Also, the~~ The control circuit 103 supplies to the rotation detecting circuit 106 a rotation detection control

pulse necessary ~~in~~ for executing the rotation detection of the motor 105. In this example, the control circuit 103 structures a rotation detection control pulse generating means that generates the rotation detection control pulse.

Paragraph beginning at line 17 of page 14 has been amended as follows:

Hereinafter, the operation of the step motor control device and the electronic timepiece in accordance with the embodiment of the present invention will be described with reference to Figs. 1 to 4 ~~properly referring to~~ and Figs. 5 and 8.